

REMARKS

Claims 9 and 13-14 have been amended. Claims 9-14 remain pending. Reconsideration and reexamination of the application, as amended, are requested.

The Examiner rejected claims 9-14 under 35 USC §103(a) as being obvious on consideration of Takahashi in view of Akihiko.

Takahashi discloses a semiconductor device which has a bipolar structure including p-type and n-type semiconductor layers which are alternately stacked in three layers. During fabrication, as shown in Fig. 30, a mask 42 is used as a screen for selectively irradiating buffer layer 2. The irradiation occurs from the underside.

Akihiko discloses in Fig. 1(c) an aluminum layer 33 such that radiation from the top thru the aluminum creates crystal defects 31.

Claim 9 has been amended to identify the impurity regions formed in the substrate such that the metal wiring layer is connected to each of the impurity regions. The metal wiring layer also has an opening above the region irradiated so that radiating rays pass to the region irradiated thru the opening to thereby generate the crystal defects only under the opening.

As adequately discussed in applicant's last response, Takahashi does not disclose structure wherein an aluminum wiring pattern has an opening only over a region irradiated. Furthermore, with respect to such structure, claim 9 specifically requires that the metal wiring layer be connected to the impurity regions. Likewise, Akihiko does not teach an aluminum layer having an opening only over regions irradiated. To the contrary, Akihiko shows a continuous aluminum layer having thicker portions and thinner portions such that the defects occur under the aluminum layer having the thinner portions. The references do not disclose the structure of the semiconductor device required by claim 9. Claim 9 and the claims which depend from it are non-obvious and patentable.

Applicant chooses not to further comment on the other claims and rejections since the depend claims further define the device of claim 9 and it is submitted are, therefore, patentable. Applicant does not acquiesce in the rejection of the dependent claims, but rather believes them to be independently patentable.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration and reexamination are requested. Allowance of claims 9-14 at an early date is solicited.



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Respectfully Submitted,

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VERSION SHOWING MARKINGS

Please amend claims 9 and 13-14 to read as follows:

9. (Thrice Amended) A semiconductor device comprising:
a substrate having a region irradiated with radiating rays,
crystal defects within the region irradiated, [and]
impurity regions formed in the substrate, and
a metal wiring layer located over the substrate, the metal wiring layer being connected to each of the impurity regions, the metal wiring layer being made of a light metal, the metal wiring layer having an opening above the region irradiated, so that radiating rays passing to the region irradiated through the opening generate the crystal defects only under the opening.
13. (Amended) The semiconductor device in accordance with Claim 12, wherein the semiconductor device is an insulated gate bipolar transistor, wherein the impurity region is a source region, and wherein the region irradiated is a positive-negative, junction where a parasitic diode is generated.
14. (Amended) The semiconductor device in accordance with Claim 12, wherein the semiconductor device is a metal oxide semiconductor field effect transistor, wherein the impurity region is a source region, and wherein the region irradiated is a positive-negative junction region where a parasitic diode is generated.